

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN H. TREGILGAS and ARTHUR M. TURNER

Appeal No. 96-0384
Application No. 08/106,252¹

ON BRIEF

Before, GARRIS, KRASS, and KRATZ, *Administrative Patent Judges*.
KRATZ, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-7, 15-19 and 21. Claims 8 and 20 stand objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening

¹Application for patent filed August 13, 1993.

claims (final rejection, page 4). Claims 9-14 and 22, which are the only other claims remaining in the application, have been withdrawn from consideration by the examiner as being directed toward a non-elected invention.

BACKGROUND

The appellants' invention relates to a method for formation of a semiconductor material comprising capping a mercury cadmium tellurium substrate with a tellurium rich cadmium telluride layer and annealing the capped substrate. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. A method for establishing a metal vacancy concentration in a substrate of mercury cadmium telluride comprising the steps:

capping the substrate with a layer of tellurium rich cadmium telluride; and,

annealing the capped substrate at a temperature sufficient to support interdiffusion between the telluride rich cadmium telluride layer and the mercury cadmium telluride substrate.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Jack et al. (Jack)
1990

4,927,773

May 22,

Basol et al. (Basol) 4,950,615 Aug. 21,
1990

Claims 1-7, 15-19, and 21 stand rejected under 35 U.S.C.
§ 103 as being unpatentable over Jack in view of Basol.

OPINION

Having carefully considered each of appellants* arguments, we are not persuaded of reversible error on the part of the examiner. Accordingly, we will sustain this rejection. We add the following comments for emphasis.

Appellants have not grouped the appealed claims separately or provided a separate argument for any particular claim on appeal. Accordingly, the appealed claims stand or fall together. *In re Young*, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991); *In re Nielson*, 816 F.2d 1567, 1571, 2 USPQ2d 1525, 1527 (Fed. Cir. 1987); *In re Kaslow*, 707 F.2d 1366, 1376, 217 USPQ 1089, 1096 (Fed. Cir. 1983). We will direct our comments primarily to claim 1.

The examiner relies on Jack for essentially disclosing the claimed process including the use of a cadmium telluride capping layer for a mercury cadmium telluride substrate and annealing the capped substrate to support diffusion of an implanted chemical species from the capping layer into the substrate. The examiner acknowledges that Jack does not expressly teach that the capping layer should be tellurium rich (answer, pages 3 and 4). According to the examiner (answer, pages 4 and 5), however, the claimed process herein would have been *prima facie* obvious to one of ordinary skill in the art from the teachings of the applied references since rendering the capping layer of Jack tellurium rich by doping the layer with tellurium is suggested by Basol's teaching (column 2, lines 51-62) of using excess tellurium in the telluride layers of semiconductor processing materials together with Jack's teaching of the use of an implant chemical that is added to the capping layer to form a region having a different composition or chemical concentration in the substrate by virtue of diffusion during the disclosed annealing step. We agree.

Appellants urge that the claims herein are directed to controlling metal vacancies in the substrate by diffusing mercury out of the substrate whereas Jack is concerned with diffusing impurities into the substrate from the capping layer (brief, page 3). In our view, however, the claims on appeal are not so limited as to support appellants' viewpoint.

In this regard, we are in agreement with the examiner (answer, page 6) that representative claim 1 simply does not require diffusing mercury out of the substrate. It is well settled that the claims in a patent application are to be given their broadest reasonable interpretation during prosecution of a patent application. *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). Limitations in the specification are not read into a claim to narrow the scope of the claim by implicitly adding disclosed limitations having no express basis in the claim. *See In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). Moreover, when a claim does not recite allegedly distinguishable features, "appellant[s] cannot rely on them to

establish patentability." *In re Self*, 671 F.2d 1344, 1350-1351, 213 USPQ 1, 7 (CCPA 1982).

Appellants also dispute the teachings of Basol regarding the usefulness of tellurium as a p-type dopant in a mercury cadmium telluride substrate urging that second phase tellurium is electrically inactive and that tellurium in the cadmium telluride capping layer would be essentially immobile compared to diffusion of metal interstitials (brief, page 3). However, appellants have not proffered any evidence to substantiate their dispute with the prior art teachings of Basol. In this regard, it is well settled that counsel's arguments in the brief are no substitute for objective evidence. *See In re Pearson*, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974).

Based on the present record, it is our view that the examiner has properly utilized the teachings and suggestions of the applied prior art both as to what the references teach and also as to what they fairly would have suggested to one of ordinary skill in the art. *See In re Burckel*, 592 F.2d 1175, 1179, 201 USPQ 67, 70 (CCPA 1979). Accordingly, we conclude

that the examiner has met his (her) initial burden of establishing that the claimed subject matter at issue herein would have been *prima facie* obvious to one of ordinary skill in the art at the time the application was filed. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598-99 (Fed. Cir. 1988).

In light of the foregoing discussion and in the absence of any convincing countervailing evidence and/or argument(s) presented by appellants we agree with the examiner's legal conclusion that the subject matter defined by the appealed claims would have been obvious within the meaning of 35 U.S.C. § 103.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1-7, 15-19, and 21 under 35 U.S.C. § 103 as being unpatentable over Jack in view of Basol is affirmed.

No time period for taking any subsequent action in
connection with this appeal may be extended under 37 CFR
§ 1.136(a).

AFFIRMED

BRADLEY R. GARRIS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
ERROL A. KRASS)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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PETER F. KRATZ)	
Administrative Patent Judge)	

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